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Application Number	10/617,843
Filing Date	July 11, 2004
First Named Inventor	Adam Saxler
Group Art Unit	2823
Examiner Name	Fernando L. Toledo
Attorney Docket Number	5308-248

Sheet

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of

## U.S. PATENTS AND PATENT PUBLICATIONS

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## FOREIGN PATENT DOCUMENTS

[illegible]

## OTHER NON PATENT LITERATURE DOCUMENTS

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# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

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Application Number	10/617,843
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First Named Inventor	Saxler et al.
Group Art Unit	2823
Examiner Name	Fernando L. Toledo
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## **U.S. PATENTS AND PATENT PUBLICATIONS**

Examiner Initials*	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code (if known)		
[Signature]	1.	US-6,150,680		Eastman et al.	11-21-2000
	2.	US-6,086,673		Molnar	07-11-2000
	3.	US-5,686,737		Allen	11-11-1997
	4.	US-4,755,867		Cheng	07-05-1988
	5.	US-2004/0241970	A1	Ring	12-02-2004
	6.	US-2003/0123829	A1	Taylor	07-03-2003
	7.	US-2002/0167023	A1	Charvarkar et al.	11-14-2002
	8.	US-2002/0008241	A1	Edmond et al.	01-24-2002

## **FOREIGN PATENT DOCUMENTS**

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		Office	Number	Kind Code (if known)			
[Signature]	9.	EP	0 334 006	A1	Siemens AG	09-27-1989	
	10.	JP	2004-342810		Fujitsu Ltd.	12-02-2004	Abstract
	11.	JP	11261053		Furukawa Electric Co. Ltd.	09-24-1999	Abstract
	12.	PCT	WO 04/008495		Cree, Inc.	01-22-2004	

## **OTHER NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T
[Signature]	13.	Ando et al., "10-W/mm AlGaIn-GaN HFET With a Field Modulating Plate," <i>IEEE Electron Device Letters</i> , 24(5), pp. 289-291 (May 2003).	
	14.	Chang et al., "AlGaIn/GaN Modulation-Doped Field-Effect Transistors with an Mg-doped Carrier Confinement Layer," <i>Jpn. J. Appl. Phys.</i> , 42:3316-3319 (2003).	
	15.	Chini et al., "Power and Linearity Characteristics of Field-Plagted Recessed-Gate AlGaIn-GaN HEMTs," <i>IEEE Electron Device Letters</i> , 25(5), pp. 229-231 (May 2004).	
	16.	Cho et al., "A New GaAs Field Effect Transistor (FET) with Dipole Barrier (DIB)," <i>Jpn. J. Appl. Phys.</i> 33:775-778 (1994).	
	17.	Coffie et al., "Unpassivated p-GaN/AlGaIn/GaN HEMTs with 7.1 W/MMF at 10 GHz," <i>Electronic Letters online No. 20030872</i> , 39(19), (September 18, 2003).	
	18.	Gaska et al., "Self-Heating in High-Power AlGaIn/GaN HFET's," <i>IEEE Electron Device Letters</i> , 19(3), pp. 89-91 (March 1998).	
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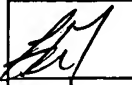
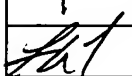
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<i>FW</i>	20.	Kanaev et al., "Femtosecond and Ultraviolet Laser Irradiation of Graphitelike Hexagonal Boron Nitride," <i>Journal of Applied Physics</i> , 96(8), pp. 4483-4489 (Oct. 15, 2004).	
	21.	Kanamura et al., "A 100-W High-Gain AlGaIn/GaN HEMT Power Amplifier on a Conductive N-SiC Substrate for Wireless Base Station Applications," <i>Electron Devices Meeting, 2004</i> , pp. 799-802, IEDM Technical Digest. IEEE International (Dec. 2004).	
	22.	Karmalkar et al., "Very High Voltage AlGaIn/GaN High Electron Mobility Transistors Using a Field Plate Deposited on a Stepped Insulator," <i>Solid State Electronics</i> , Vol. 45, pp. 1645-52 (2001).	
	23.	Kashahara et al., "Ka-band 2.3W Power AlGaIn/GaN Heterojunction FET," <i>IEDM Technical Digest</i> , pp. 677-680 (2002).	
	24.	Komiak et al., "Fully Monolithic 4 Watt High Efficiency Ka-band Power Amplifier," <i>IEEE MTT-S International Microwave Symposium Digest</i> , Vol. 3, pp. 947-950 (1999).	
	25.	Küstters et al., "Double-Heterojunction Lattice-Matched and Pseudomorphic InGaAs HEMT with $\delta$ -Doped InP Supply Layers and p-InP Barrier Enhancement Layer Grown by LP-MOVPE," <i>IEEE Electron Device Letters</i> , 14(1), (January 1993).	
	26.	Manfra et al., "Electron Mobility Exceeding 160 000 cm <sup>2</sup> /V s in AlGaIn/GaN Heterostructures Grown by Molecular-beam Epitaxy," <i>Applied Physics Letters</i> , 85(22), pp. 5394-96 (Nov. 29, 2004).	
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	29.	Parikh et al., "Development of Gallium Nitride Epitaxy and Associated Material-Device Correlation for RF, Microwave and MM-wave Applications," Cree, Inc. (35 slides).	
	30.	Saxler et al., "III-Nitride Heterostructures on High-Purity Semi-Insulating 4H-SiC Substrates for High-Power RF Transistors," International Workshop on Nitride Semiconductors (July 19, 2004).	
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	32.	"Thick AlN template on SiC substrate - Novel semi insulating substrate for GaN-based devices," © 2003 by TDI, Inc., <a href="http://www.tdii.com/products/AlN_SiCT.html">http://www.tdii.com/products/AlN_SiCT.html</a> .	
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	35.	United States Patent Application entitled "Silicon Carbide on Diamond Substrates and Related Devices and Methods," Serial No. 10/707,898, filed January 22, 2004 (Cree Docket No. P0387).	
	36.	United States Patent Application entitled "Methods of Fabricating Nitride-Based Transistors with a Cap Layer and a Recessed Gate," Serial No. 10/897,726, filed July 23, 2004 (Attorney Docket No. 5308-392).	
	37.	United States Patent Application entitled "High Power Density and/or Linearity Transistors," Serial No. 11/005,107, filed December 6, 2004 (Attorney Docket No. 5308-511).	
	38.	United States Patent Application entitled "Field Effect Transistors (FETS) Having Multi-Watt Output Power at Millimeter-Wave Frequencies," Serial No. 11/005,423, filed December 6, 2004 (Attorney Docket No. 5308-512).	
	39.	United States Patent Application entitled "Group III Nitride Field Effect Transistors (FETs) Capable of Withstanding High Temperature Reverse Bias Test Conditions," Serial No. 11/080,905, filed March 15, 2005 (Attorney Docket No. 5308-516).	
	40.	United States Patent Application entitled "Aluminum Free Group III-Nitride Based High Electron Mobility Transistors and Methods of Fabricating Same," Serial No. 11/118,575, filed April 29, 2005 (Attorney Docket No. 5308-543).	
<i>FW</i>	41.	United States Patent Application entitled "Binary Group III-Nitride Based High Electron Mobility Transistors and Methods of Fabricating Same," Serial No. 11/118,675, filed April 29, 2005 (Attorney Docket No. 5308-544).	

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	42.	United States Patent Application entitled "Composite Substrates of Conductive And Insulating or Semi-Insulating Group III-Nitrides For Group III-Nitride Devices," Serial No. 11/103,127, filed April 11, 2005 (Attorney Docket No. 5308-551).	
	43.	United States Patent Application entitled "Thick Semi-Insulating or Insulating Epitaxial Gallium Nitride Layers and Devices Incorporating Same," Serial No. 11/103,117, filed April 11, 2005 (Attorney Docket No. 5308-553).	
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	45.	Walker, J. L. B. (Ed.), <i>High Power GaAs FET Amplifiers</i> , Norwood, MA: Artech House, pp. 119-120 (1993).	
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	47.	Wu et al., "3.5-Watt AlGaIn/GaN HEMTs and Amplifiers at 35 GHz," Cree Santa Barbara Technology Center, Goleta, CA 93117.	
	48.	Wu et al., "30-W/mm GaN HEMTs by Field Plate Optimization," <i>IEEE Electron Device Letters</i> , 25(3), pp. 117-119 (March 2004).	
	49.	Wu et al., "Bias-dependent Performance of High-Power AlGaIn/GaN HEMTs," <i>IEDM Technical Digest</i> , p. 378-380 (2001).	
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